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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,639	12/22/2003	Kurt R. Kaski	DAKTRONICS	9903
21270	7590	06/11/2007		
HUGH D JAEGER, P.A. P.O. BOX 672 WAYZATA, MN 55391-0672			EXAMINER WONG, ALBERT KANG	
			ART UNIT	PAPER NUMBER
			2612	
			MAIL DATE	DELIVERY MODE
			06/11/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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**Office Action Summary**

Application No.

10/750,639

Applicant(s)

KASKI, KURT R.

Examiner

Albert K. Wong

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26, 28 and 30-48 is/are rejected.
- 7) ☒ Claim(s) 27 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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1. This Office action is in response to the application filed December 22, 2003. Claims 1-48 are pending.

2. The use of the trademark QT310 and Quantum Research Group has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

3. The disclosure is objected to because of the following informalities: there are numerous misspelling in the written specifications and the claims.

Appropriate correction is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 31-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 31, the term "multiple-like components is considered vague and indefinite.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-7, 9-11, 13, 17, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaski (7,119,799).

Regarding claim 1, the claimed sensor mat is shown as item 11; the claimed sensor circuit is shown as item 60; and the claimed power supply is shown at the voltage supply in Figure 4a. Col. 6, lines 59-end teaches the use of the mat to detect the takeoff of the swimmer from the mat by monitoring the change in capacitance.

Regarding claims 2-7, these claims merely recite use limitations for the sensor mat. In *In re Schreiber*, 44 USPQ2d 1429 the court held that new uses for an old invention does not constitute a patentable invention and thus, do not serve to distinguish the claims over the prior art. Thus, limitations within a claim that merely pertain to the use of an old device do not distinguish over the prior art.

Regarding claims 9-11 and 13, see figure 2.

Regarding claim 17, see figure 2.

Regarding claim 30, see figure 1

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-8, 12, 14-19, 21-26, 28, and 31-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaski in view of Coble (3,916,214).

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Regarding claims 2-3, Kaski does not teach the mat on a starting platform (this is debatable since the location of the mat in the pool is within a starting platform when the race is the backstroke). Coble teaches the use of a pressure sensitive mat for both the starting platform as well as within the pool. It would have been obvious to use the capacitive mat in Kaski on a starting platform as suggested by Coble.

Regarding claims 4-7, see figure 6 of Coble.

Regarding claim 8, Coble teaches the use of a non-slip surface. See item 29.

Regarding claim 12, it is conventional to use an adhesive to bond items. Thus, it would have been obvious to use well known items for their known function.

Regarding claim 14, Kaski teaches two layers. It would have been obvious to include multiple layers to increase the sensitivity of the mat.

Regarding claim 15, this limitation has been addressed above.

Regarding claim 16, Coble suggests that a sensor mat does not have to be planar to that the device can be used on a starting platform or even to overhang the edge of the pool.

Regarding claim 18, see item 60 in Kaski. While an integrated circuit is not explicitly taught, it would have been obvious to use such a device for compactness and ease of design.

Regarding claim 19, it would have been obvious to used conventional items for their known functions.

Regarding claim 21, see figure 5 in Kaski. While an integrated circuit is not explicitly taught, it would have been obvious to use such a device for compactness and ease of design.

Regarding claims 22-26, these limitations are considered obvious design choices since they are not critical to the invention.

Regarding claim 28, the use of a particular voltage is considered an obvious design choice. It is conventional to use a battery to provide backup power. Thus, it would have been obvious to use a battery for its known function.

Regarding claim 31, Coble teaches the claimed multiple components arranged along the swimming pool lanes and means for comparing timing of the components to detect starts. Coble does not teach the detection of capacitive changes. Kaski in the same field teaches the detection of capacitive changes to detect takeoff. It would have been obvious to combine the references to gain the advantages of a capacitive detection system as taught by Kaski.

Regarding claim 32, the sensor in Kaski is substantially pressure insensitive.

Regarding claim 33, Coble teaches the claimed sensing mat, sensor circuit, cable, and touchpad. Coble does not teach a timer connected to the lane module. Kaski teaches a timer connected to a lane module. It would have been obvious to combine the teachings since they are in the same field. The inclusion of a timer allows the system to perform the desired timing function for races.

Regarding claims 34-35, see figure 1 of Kaski.

Regarding claim 36, see Coble.

Regarding claim 37, the system in Coble is used to determine if the swimmers take off at the proper times. These are considered pre-set disqualification criteria.

Regarding claim 38, see rejection of claim 37. The specific time for DQ is considered an obvious design choice based on the rules of the race.

Regarding claim 39, it would have been obvious to provide an indication of a DQ condition so the judging body can determine the winner of the race.

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Regarding claim 40, see Coble.

Regarding claim 41, it is conventional to have scoreboards to announce statistics in swimming race. It would have been obvious to include conventional items for their known functions.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaski as applied to claim 1 above, and further in view of Philipp (2004/0104826).

Regarding claim 20, Kaski does not teach a charge transfer ID that projects a capacitive sense field over an electrode. Philipp teaches such a device to detect the body of a person. It would have been obvious to substitute the capacitive sensor for the one in Kaski since they are functionally similar.

11. Claim 42 is rejected under 35 U.S.C. 102(b) as being anticipated by Coble (3,916,214).

Regarding claim 42, the steps of providing, sensing arrival and departure are discussed in col. 1

12. Claims 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coble as applied to claim 42 above, and further in view of Kaski.

Regarding claim 43, Coble does not teach the sensing of a capacitance level change at the sensing mat. Kaski teaches this step. It would have been obvious to use a capacitive mat as suggested by Kaski.

Regarding claim 44, Kaski teaches the used of circuitry to sense capacitance levels. It would have been obvious to use an IC for ease of integration. The location of the components is considered an obvious design choice since location is not critical to the invention.

Regarding claim 45, this limitation is shown in Kaski.

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Regarding claim 46, see Kaski.

Regarding claim 47, Kaski teaches the monitoring of departures and arrivals by changes in capacitance. This change is caused by detecting the presence and absence of a swimmer on the mat.

Regarding claim 48, it would have been obvious to use a switch to determine if the proper condition of arrival and departure are met.

13. Claims 27 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K. Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian A. Zimmerman can be reached on 571-272-3059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Albert K. Wong  
June 5, 2007



**ALBERT K. WONG**  
**PRIMARY EXAMINER**